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L5 ANSWER 1 OF 78 EUROPATFULL COPYRIGHT 2001 WILA

GRANTED PATENT - ERTEILTES PATENT - BREVET DELIVRE

ACCESSION NUMBER: 808111 EUROPATFULL EW 199935 FS PS  
TITLE: A LOW PHOSPHORUS ANIMAL FEED

CONTAINING 1 -ALPHA- HYDROXYLATED VITAMIN D COMPOUNDS.  
1-ALPHA-HYDROXY-VITAMIN D - VERBINDUNGEN ENTHALTENDES  
TIERFUTTER MIT NIEDRIGEM PHOSPHORGEHALT.

ALIMENT POUR ANIMAUX A FAIBLE TENEUR EN  
PHOSPHORE CONTENANT DES COMPOSES DE LA VITAMINE  
D 1-ALPHA-HYDROXYLES.

INVENTOR(S): DELUCA, Hector, F., 1809  
Highway BB, Deerfield, WI 53531, US;  
BAKER, David, H., 2313 Brookshire West, Champaign, IL  
61821, US

PATENT ASSIGNEE(S): WISCONSIN ALUMNI RESEARCH FOUNDATION, 614 North Walnut  
Street, Madison, WI 53705, US

PATENT ASSIGNEE NO: 319660

AGENT: Ellis-Jones, Patrick George Armine, J.A. KEMP & CO. 14  
South Square Gray's Inn, London WC1R 5LX, GB  
30442

AGENT NUMBER:

OTHER SOURCE:

SOURCE:

DOCUMENT TYPE:

LANGUAGE: Anmeldung in Englisch; Veröffentlichung in Englisch

DESIGNATED STATES: R AT; R BE; R CH; R DE; R DK; R ES; R FR; R GB; R GR; R  
IE; R IT; R LI; R LU; R MC; R NL; R PT; R SE

PATENT INFO. PUB. TYPE: EPB1999050 EP 0808111 B1 990901  
Wila-EPS-1999-H35-T3

Patent

Anmeldung in Englisch; Veröffentlichung in Englisch

R AT; R BE; R CH; R DE; R DK; R ES; R FR; R GB; R GR; R

IE; R IT; R LI; R LU; R MC; R NL; R PT; R SE

EPB1 EUROPÄISCHE PATENTSCHRIFT (Internationale  
Anmeldung)

PATENT INFORMATION:

PATENT NO KIND DATE

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EP 808111 B1 19990901

19971126

'OFFENLEGUNGS' DATE:

APPLICATION INFO.: EP 1996-903676 19960129

PRIORITY APPLN. INFO.: US 1995-383952 19950206

RELATED DOC. INFO.: WO 96-US1021 960129 INTAKZ

WO 9624258 960815 INTPNR

REFERENCE PAT. INFO.: EP 383116 A WO 93-19759 A

REF. NON-PATENT-LIT.: ZEITSCHRIFT FÜR VERSUCHSTIERKUNDE, vol. 27, no. 3/4,  
1985, pages 163-168, XP002001500 ERLING TVEDEGAARD:

"Absorption of calcium, magnesium and phosphate during  
chronic renal failure and the effect of vitamin D in  
rabbits" JOURNAL OF NUTRITION, vol. 125, no. 9, 1995,  
pages 2407-2419, XP002001501 ROBERT R. BIEHL ET AL.:

"1-alpha-hydroxylated cholecalciferol compounds act  
additively with microbial phytase to improve

phosphorus,

zinc and manganese utilization in chicks fed soy-based  
diets" cited in the application POULTRY SCIENCE, vol.  
73, no. 8, 1994, pages 1312-1326, XP002001502 KEVIN D.  
ROBERSON ET AL.: "Effects of 1,25-  
dihydroxycholecalciferol and phytase on zinc utilization  
in broiler chicks" POULTRY SCIENCE, vol. 69, no. 3,

1990, pages 426-432, XP002001503 R.H. HARMS ET AL.: "Some observations on the influence of vitamin D metabolites when added to the diet of commercial laying hens" JOURNAL OF DAIRY SCIENCE, vol. 65, no. 10, 1982, CHAPAIIGN, ILLINOIS US, pages 1934-1940, XP002001504 K. HOVE ET AL.: "Prevention of parturient hypocalcemia: effect of a single oral dose of 1,25-dihydroxyvitamin D3" POULTRY SCIENCE, vol. 74, no. 1, 1995, pages 121-126, XP002001505 SEIJI AOYAGI ET AL.: "Effect of microbial phytase and 1,25-dihydroxycholecalciferol on dietary copper utilization in chicks"

L5 ANSWER 5 OF 78 EUROPATFULL COPYRIGHT 2001 WILA

PATENT APPLICATION - PATENTANMELDUNG - DEMANDE DE BREVET

ACCESSION NUMBER: 549367 EUROPATFULL EW 199326 FS OS STA B  
TITLE: Method of treating milk fever disease in dairy cattle.  
Verwendung von Vitamin-D-Derivaten und von  
Kalziumzusaetzen zur Behandlung des Milchfiebers.  
Utilisation de derives de la vitamine D et de  
supplement, de calcium pour le traitement de la fievre  
de lactation.

INVENTOR(S): DeLuca, Hector Floyd, 1809  
Highway BB, Deerfield, Wisconsin 53531, US;  
Hodnett, Dean William, 2029 9th St. Apt. 3, Coralville,  
Iowa 52241, US;  
Jorgensen, Neal Albert, 5979 Woodcreek Lane, Middleton,  
Wisconsin 53562, US  
WISCONSIN ALUMNI RESEARCH FOUNDATION, 614 North Walnut  
Street Post Office Box 7365, Madison Wisconsin  
53707-7365, US

PATENT ASSIGNEE(S): 319662  
PATENT ASSIGNEE NO: Ellis-Jones, Patrick George Armine, J.A. KEMP & CO. 14  
AGENT: South Square Gray's Inn, London WC1R 5LX, GB

AGENT NUMBER: 30442  
OTHER SOURCE: ESP1993045 EP 0549367 A1 930630  
SOURCE: Wila-EPZ-1993-H26-T1b  
DOCUMENT TYPE: Patent  
LANGUAGE: Anmeldung in Englisch; Veröffentlichung in Englisch  
DESIGNATED STATES: R BE; R CH; R DE; R DK; R ES; R FR; R GB; R LI; R NL  
PATENT INFO. PUB. TYPE: EPA1 EUROPÄISCHE PATENTANMELDUNG  
PATENT INFORMATION:

PATENT NO	KIND DATE
EP 549367	A1 19930630 19930630
APPLICATION INFO.: EP 1992-311816	19921224
PRIORITY APPLN. INFO.: US 1991-814368	19911226

L5 ANSWER 12 OF 78 PCTFULL COPYRIGHT 2001 MicroPatent

ACCESSION NUMBER: 1996024258 PCTFULL  
TITLE (ENGLISH): A LOW PHOSPHORUS ANIMAL FEED  
CONTAINING 1'alpha'-HYDROXYLATED  
VITAMIN D COMPOUNDS  
TITLE (FRENCH): ALIMENT POUR ANIMAUX A FAIBLE TENEUR EN  
PHOSPHORE CONTENANT DES  
COMPOSES DE LA VITAMINE D 1'alpha'-HYDROXYLES

INVENTOR(S): **DELUCA, Hector, F.; BAKER, David, H.**  
 PATENT ASSIGNEE(S): **WISCONSIN ALUMNI RESEARCH FOUNDATION**  
 LANGUAGE OF PUBL.: **English**  
 DOCUMENT TYPE: **Patent**  
 PATENT INFORMATION:

	NUMBER	KIND	DATE
DESIGNATED STATES:	WO 9624258	A1	19960815
	AL AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KZ LK LR LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ UA UG UZ VN KE LS MW SD SZ UG AZ BY KG KZ RU TJ TM AT BE CH DE DK ES FR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG		
APPLICATION INFO.:	WO 1996-US1021		19960129
PRIORITY (ORIGINAL):	US 1995-8/383952		19950206
ABEN	An animal <b>feed</b> containing 1 'alpha'-hydroxylated vitamin D compounds. The vitamin D compounds cause improved utilization of <b>phosphorus</b> , calcium, potassium, magnesium, zinc, iron and manganese in animal <b>feed</b> so as to minimize, or perhaps eliminate, the need for supplemental quantities of these minerals in an animal diet. In addition, low <b>phosphorus</b> containing animal <b>feeds</b> reduce the polluting effects on the environment since less <b>phosphorus</b> is excreted in the animal's feces which are then spread on agricultural land.		
ABF	L'invention concerne un aliment pour animaux contenant des composés de la vitamine D l'alpha' hydroxyles. Ces composés de la vitamine D provoquent une amélioration de l'utilisation du <b>phosphore</b> , du calcium, du potassium, du magnésium, du zinc, du fer et du manganèse, ce qui permet de diminuer, voire supprimer l'addition de ces substances minérales aux aliments pour animaux. En outre, des aliments pour animaux à faible teneur en <b>phosphore</b> diminuent la pollution de l'environnement normalement associée au <b>phosphore</b> contenu dans les déjections, qui sont répandues sur les terrains agricoles.		

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 ACCESSION NUMBER: 1999:92343 USPATFULL  
 TITLE: Low **phosphorus** animal **feed**  
 containing 1.alpha.-hydroxylated vitamin D compounds  
 and method of preparing

✓ INVENTOR(S): **DeLuca, Hector F., Deerfield, WI, United States**  
 PATENT ASSIGNEE(S): **Baker, David H., Champaign, IL, United States**  
**Wisconsin Alumni Research Foundation, Madison, WI, United States (U.S. corporation)**  
**Board of Trustees of the University of Illinois, Urbana, IL, United States (U.S. corporation)**

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5935624		19990810

APPLICATION INFO.: US 1997-969295 19971113 (8)  
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1996-757448, filed on 27 Nov 1996, now abandoned which is a continuation of Ser. No. US 1995-452847, filed on 30 May 1995, now abandoned which is a division of Ser. No. US 1995-383952, filed on 6 Feb 1995, now abandoned

DOCUMENT TYPE: Utility

PRIMARY EXAMINER: Corbin, Arthur L.

LEGAL REPRESENTATIVE: Andrus, Sceales, Starke & Sawall

NUMBER OF CLAIMS: 18

EXEMPLARY CLAIM: 1

LINE COUNT: 803

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An animal **feed**, preferably a poultry **feed**, containing an 1.**alpha**-hydroxylated vitamin D compound. The vitamin D compound causes improved utilization of **phosphorus**, calcium, potassium, magnesium, zinc, iron and manganese available from inorganic sources in animal **feed** so as to minimize, or perhaps eliminate, the need for supplemental quantities of these minerals in an animal diet.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 64 OF 78 USPATFULL

ACCESSION NUMBER: 82:32741 USPATFULL

TITLE: Method for preventing parturient paresis in dairy cattle

INVENTOR(S): DeLuca, Hector F., Madison, WI, United States  
Schnoes, Heinrich K., Madison, WI, United States

PATENT ASSIGNEE(S): Jorgensen, Neal A., Middleton, WI, United States  
Wisconsin Alumni Research Foundation, Madison, WI, United States (U.S. corporation)

NUMBER	KIND	DATE
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PATENT INFORMATION: US 4338312 19820706  
APPLICATION INFO.: US 1981-262093 19810511 (6)

DOCUMENT TYPE: Utility

PRIMARY EXAMINER: Roberts, Elbert L.

LEGAL REPRESENTATIVE: Bremer, Howard W.

NUMBER OF CLAIMS: 11

EXEMPLARY CLAIM: 1

LINE COUNT: 201

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method for prophylactically treating dairy cattle for parturient paresis by administering to the cattle a 25-hydroxylated vitamin D compound and a 1.**alpha**-hydroxylated vitamin D compound in combination in an amount sufficient to induce said prophylaxis.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 65 OF 78 USPATFULL

ACCESSION NUMBER: 81:69422 USPATFULL

TITLE: 1.**alpha**., 25-dihydroxy-2.**beta**.-fluorovitamin D.<sub>sub.3</sub>

INVENTOR(S): DeLuca, Hector F., Madison, WI, United States

Schnoes, Heinrich K., Madison, WI, United States

Ikekawa, Nobuo, Musashinoshii, Japan

Tanaka, Yoko, Madison, WI, United States

## PATENT ASSIGNEE(S):

Morisaki, Masuo, Tokyo, Japan  
 Oshida, Jun-ichi, Tokyo, Japan  
 Wisconsin Alumni Research Foundation, Madison, WI,  
 United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4307025		19811222
APPLICATION INFO.:	US 1981-235262		19810217 (6)
DOCUMENT TYPE:	Utility		
PRIMARY EXAMINER:	Roberts, Elbert L.		
LEGAL REPRESENTATIVE:	Bremer, Howard W.		
NUMBER OF CLAIMS:	3		
EXEMPLARY CLAIM:	1		
LINE COUNT:	218		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides new derivatives of vitamin D<sub>sub.3</sub>, specifically,

1.alpha.,25-dihydroxy-2.beta.-fluorocholecalciferol.

The compound is characterized by vitamin D-like activity as measured by its ability to stimulate intestinal calcium transport, mobilization of calcium from bone, increase serum inorganic phosphorous and in their antirachitic activity. The compound, could, therefore, find ready application as a substitute for vitamin D in its various known applications and in the treatment of various metabolic bone diseases.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 72 OF 78 USPATFULL

ACCESSION NUMBER: 80:49750 USPATFULL  
 TITLE: 24,24-Difluoro-1.alpha.,25-dihydroxycholecalciferol  
 INVENTOR(S): DeLuca, Hector F., Madison, WI, United States  
 Schnoes, Heinrich K., Madison, WI, United States  
 Ikekawa, Nobuo, Tokyo, Japan  
 Tanaka, Yoko, Madison, WI, United States  
 Kobayashi, Yoshiro, Tokyo, Japan  
 Wisconsin Alumni Research Foundation, Madison, WI,  
 United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4226788		19801007
APPLICATION INFO.:	US 1979-64254		19790806 (6)
RELATED APPLN. INFO.:	Division of Ser. No. US 1979-24848, filed on 28 Mar 1979, now abandoned		
DOCUMENT TYPE:	Utility		
PRIMARY EXAMINER:	Roberts, Elbert L.		
LEGAL REPRESENTATIVE:	Bremer, Howard W.		
NUMBER OF CLAIMS:	1		
EXEMPLARY CLAIM:	1		
LINE COUNT:	353		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides new derivatives of vitamin D,  
 24,24-difluoro-1.alpha.,25-dihydroxycholecalciferol and  
 24,24-difluoro-1.alpha.,25-dihydroxy-5,6-trans-cholecalciferol and  
 processes for preparing the same.

The compounds are characterized by vitamin D-like activity essentially equivalent to the vitamin D-like activity of 1.alpha.,25-dihydrocholecalciferol which is considered to be the hormonal form and most active derivative of vitamin D. The compounds of this invention are characterized by their ability to increase intestinal calcium transport, increase serum calcium and to prevent the development of rickets. These compounds would find ready application as a substitute for vitamin D and in the treatment of disease states evincing metabolic calcium and phosphorus deficiencies.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 77 OF 78 USPATFULL  
ACCESSION NUMBER: 78:47401 USPATFULL  
TITLE: Method of treating milk fever in dairy cattle with 1,25-dihydroxycholecalciferol  
INVENTOR(S): DeLuca, Hector F., Madison, WI, United States  
Jorgensen, Neal A., Middleton, WI, United States  
PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation, Madison, WI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4110446		19780829
APPLICATION INFO.:	US 1977-815587		19770714 (5)
DOCUMENT TYPE:	Utility		
PRIMARY EXAMINER:	Rosen, Sam		
LEGAL REPRESENTATIVE:	Bremer, Howard W.		
NUMBER OF CLAIMS:	6		
EXEMPLARY CLAIM:	1,6		
LINE COUNT:	392		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of treatment and prophylaxis for milk fever in dairy cattle which comprises administering 1,25-dihydroxycholecalciferol to the cattle.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L5 ANSWER 78 OF 78 USPATFULL  
ACCESSION NUMBER: 73:27700 USPATFULL  
TITLE: 1.alpha.-HYDROXYCHOLECALCIFEROL  
INVENTOR(S): DeLuca, Hector F., Madison, WI, United States  
Schnoes, Heinrich K., Waunakee, WI, United States  
Holick, Michael F., Madison, WI, United States  
Semmler, Erich J., Madison, WI, United States  
PATENT ASSIGNEE(S): Wisconsin Alumni Research Foundation, Madison, WI, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 3741996		19730626
APPLICATION INFO.:	US 1971-204305		19711202 (5)
DOCUMENT TYPE:	Utility		
PRIMARY EXAMINER:	Roberts, Elbert L.		
LEGAL REPRESENTATIVE:	Bremer, Howard W.		

NUMBER OF CLAIMS: 2  
LINE COUNT: 319

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB 1.alpha.-hydroxycholecalciferol and method for preparing the same. The compound is characterized by antirachitic and other vitamin D-like activity and finds application in situations where vitamin D is now being used.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.